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*Article*

# Extension, Connectivity, and Complementarity: An In-depth Examination of the Evolutionary Path of Quality Development in China's Sports Tourism Industry Chain

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**Abstract:** Within the tourism industry, the creation, popularization, and dissemination of visual assets and cultural symbols attract significant attention. However, sports tourism delves deeper into this realm, emphasizing content innovation, creativity, and the application of knowledge. Amid the rapid development of a national unified market, the sports tourism industry chain, with intellectual property at its core, has become a crucial factor. Currently, the industry chain faces issues such as “short chains,” “broken chains,” and “narrow chains”. To address these challenges, decentralization is necessary to ensure the stability of industry chain connections and promote value-driven chain development. Furthermore, it is crucial to address the diminishing marginal returns and diversification of the industry chain.

**Keywords:** sports tourism; industrial chain; development models; quality development

## 1. Introduction

The cornerstone of a comprehensive industry chain resides in linking consumer needs with midstream and downstream enterprises, producing differentiated products through interconnectivity and derivation, while augmenting the value of integrated supply. Sports tourism, a burgeoning field, is evolving from a singular to a diversified industry, shaping a new economic growth point [1]. The strong correlation between the sports and tourism industries has led to the blending of their boundaries, with the sports tourism industry chain serving as a nexus and extension for both sectors [2]. The emergence and growth of sports tourism as a novel industry form require a solid industry foundation and a supportive policy environment.

Generally, industrial chain development modes can be categorized into dual-core driven development, horizontal expansion, and vertical extension [3]. A “short chain” signifies a lack of core enterprises in the upstream and downstream sectors, resulting in an insufficiently extended industrial chain. A “long chain” refers to a situation where short or non-value-adding links within the industrial chain lead to inefficiencies and hinder the realization of potential benefits. A “broken chain” occurs when the industry chain's operation stagnates due to technical issues or resource constraints. A “lack of chain” indicates a truncated or uncompetitive industry chain, leading to chain discontinuity [4]. The absence of industry alignment, causing disconnection between upstream and downstream enterprises, is termed as “chain deficiency”. The inherent characteristics of sports tourism as a nascent industry contribute to the occurrence of broken and deficient chains in the sports tourism industry [5]. Therefore, sports tourism must emphasize the harmonious coordination among leading enterprises and other entities within the chain to ensure seamless connections. The development of the sports tourism industry chain should proceed in phases, such as front-end technology integration, midstream functional integration, and end-to-end market integration, while adhering to objective laws. This approach will stimulate industry chain optimization, actively align

with the new domestic and international dual-circulation development model, expand the “distant” sports model domestically, unleash the potential of sports resources, and contribute to high-quality sports development.

To fully comprehend the quality development path of China’s sports tourism industry chain, it is crucial to analyze the existing issues and explore potential solutions. This paper will discuss the challenges and opportunities for sports tourism industry chain development, offering insights and recommendations for improvement. By understanding the interplay between the sports and tourism sectors, policymakers and industry stakeholders can foster a more robust and sustainable sports tourism industry chain, ultimately benefiting the economy and society as a whole.

## **2. Theoretical Basis and Realistic Opportunities for Upgrading the Sports Tourism Industry Chain**

Sports tourism activities are characterized by the integration of culture, digitization, information technology, and synthesis. To create exceptional experiences, the long-tail effect and the honeycomb effect of the industry chain are necessary [6]. The sports tourism industry cluster represents a unique arrangement in which influential stakeholders in the sports tourism industry chain congregate within specific regions, cooperatively developing and integrating resources to generate economies of scale, scope advantages, and synergies. In terms of operational flow, the sports tourism industry chain is centered on the tourist demand chain, with the sports tourism product chain serving as the connecting element. This encompasses the complete industrial chain involving production, labor services, and sales, which include cultural enterprises, tourism enterprises, support service enterprises, and organizations, among others. In terms of development mode and impact, the core of the sports tourism industry chain lies in symbolic creativity, using cultural content as the link and emphasizing the permeation of symbolic creativity throughout the industry chain. This approach adds value to sports tourism products and provides intellectual property.

### *2.1. The Construction of a New Double-Cycle Development Pattern Requires the Upgrading of the Sports Tourism Industry Chain*

To build a dual-cycle economy system, we need to focus on optimizing the industrial chain system, promoting the division of labor, industrial synergy, and continuous updating of the industrial structure through the overall layout [7]. This will optimize the distribution of factors of production and improve the value of the industry. From an endogenous perspective, there is a need for a high-quality supply side, including innovation-driven growth models driven by technological progress, a green development philosophy that prioritizes quality and efficiency, and a policy orientation toward openness. With regard to internal circulation, it is necessary to form a comprehensive domestic demand system, coordinate the contradiction between supply and demand, maintain the balance of supply and demand, improve the distribution pattern, find new growth points in the economy, and build a high standard market system by means of the complex, professional, and efficient organization of production patterns brought about by the digital economy. In terms of upcycling, we should accelerate the formation of a large domestic market, promote supply-side reforms, cultivate consumption hotspots, expand effective demand, and lay a solid foundation for sustainable economic and social development in our country [8]. From the point of view of external circulation, it is necessary to incorporate, guide, and maintain international industrial chains, supply chains, import and export product systems, investment structures, industry standards, scientific and technological exchanges, etc., and continue to make efforts to strengthen the global distribution proactively, integrate global resources in depth, and continue to operate globally. At present, our country is forming a new development pattern in which the domestic large circulation is the main body and the domestic and international dual circulation promote each other. Under the new development pattern, for a long time to come, countries’ economic development will be dominated by the positive interaction between internal and external cycles.

In structural adjustment, especially in boosting domestic demand, the problem of overcapacity must be considered. Therefore, false external markets are inadequate and unsustainable, and internal

circulation requires large internal markets [9]. With a population of 1.413 billion in 2021, China has a significant population in terms of labor force and purchasing power. Developing an internal circular economy has great market advantages and a sound market base. The key to developing an internal circular economy is to break down geographical barriers, eliminate local protectionism, and enable enterprises of different levels and types to compete fully in the market. The government has played an important role in that process, but it is also clear that there are problems and that further reforms are needed [10]. While the government at the helm can maintain basic market functioning, technological innovation is the basis for stimulating the market. At present, the state has made it clear that it wants to build a large unified market across the country. The establishment of a large single market capable of allocating resources efficiently is crucial. A market economy can transform science and technology into affordable and properly used commodities. There will also be increased competition between businesses. The growth of market transactions can promote higher employment rates, raise workers' incomes, and stimulate market vitality.

At the same time, with the development of economic globalization, the division of regional industries is becoming more and more detailed, and each place will take advantage of its unique natural resource endowments and cultural characteristics to form its own distinctive industrial clusters. Especially in the context of large-scale ecological strategy, the opportunities and challenges of carbon neutrality, regions with insufficient industrial production capacity should accelerate internal circulation and rely on regional cultural advantages.

As a tertiary industry, the sports industry is characterized by low resource consumption, low environmental pollution, and high economic value addition [11]. The development of sports tourism is based on the above. With its unique sports leisure mode, sports tourism satisfies the demand for a healthy lifestyle and green travel. Sports tourism essentially requires the movement of people and groups of people, the movement of goods and materials, the movement of means of production and resources, and the movement of products and services, with more emphasis on high-speed logistics connectivity. Sports tourism, as a new industry, is bound to follow this law and form a new industry system in which the sports industry is the main body, and many factors merge. Such a circular industrial system, its core is anchoring the "new road", mortise and tenon socket "new policy", mastering the "new machine", in promoting innovation, and the practical transformation of old and new kinetic energy. Its essence is the optimization of the industrial chain, the key is to improve innovation capacity, and the strategy lies in the extension of the industrial chain, enhancing the capacity for sustainable development.

## *2.2. The High Quality Development of the Real Economy Requires the Upgrading of the Sports Tourism Industry Chain*

In order to achieve high-quality development of sports tourism, high-speed logistics connectivity is necessary, and its existence inevitably points to the real economy [12]. This paper, from an economic perspective, analyzes the current situation and existing problems of the sports tourism industry in our country, and proposes countermeasures and suggestions to promote the integration of sports industry and tourism in order to achieve a healthy interaction and common prosperity between the sports industry and the tourism industry. The real economy is closely linked to human production, including the production of material, spiritual goods, services, circulation, and other economic activities. In a certain sense, production without physical form will not undergo a process of social reproduction. No single form of economy can replace the real economy under market economy conditions, and economics focuses on how to effectively meet human needs, which can be met in two ways: goods or services. When the process of social reproduction is disrupted, unemployment, inflation, and even economic crises occur, and if not remedied in a timely manner, the entire economy will be paralyzed. Many industries are currently experiencing adverse impacts on the market economy due to the disruption of raw materials, products, and other flows caused by the suspension and slow movement of logistics. However, this is not due to the economy itself.

It is necessary to fully consider that the traditional real economy system will inevitably face a new round of transformation, change, and adaptation, which has become a significant feature of the



real economy. Under such a background, the transformation and upgrading of the sports industry are imperative. The development of sports tourism and the transformation of the real economy show a positive correlation. This is because sports tourism itself is a cultural activity with a strong economy. It has the characteristics of sustainability, network sales, knowledge intensity, innovation, and so on. Tourists can obtain spiritual, emotional, and cultural knowledge through tourism activities. Therefore, sports tourism, as a new industry, has undergone significant changes in its industrial form. Especially with the transformation of sports tourism consumption from spontaneous to self-conscious, tourists are also gradually aligning with the world in terms of consumption psychology. Symbolic creativity and information dissemination are becoming the focus of products, services, and other production links. Therefore, as a new growth point of the sports industry, sports tourism plays a very important role in driving the growth of our national economy.

At the same time, sports tourism can transform cultural resources into economic resources through the integration and utilization of cultural resources and the continuous strengthening of resource processing capacity. In a time of expanding intellectual property, the industrial chain has more nodes in the middle and lower reaches, and it is the main pillar of many economic activities, generating income and jobs, which can greatly increase employment in the region. Therefore, with the "Belt and Road" strategy as the background, it is of great practical significance to promote the rapid development of China's sports industry. As for the holders of regional culture in tourism areas, the sports tourism industry can benefit public transportation, catering, photography, and other industries, and tourism commodities can increase the income of the region's residents. They can act as suppliers of intellectual property at the front of the industry chain, provide the real regional culture to tourists and symbolic creatives, and also act as product providers at the end.

Because sports tourism has broken through the resource limitations of traditional tourism, it has become an important industry model to overcome the resource curse of rural revitalization. In recent years, China's economic growth has shifted from high speed to high quality, but there are still regional differences, especially between the east coast and the central and western regions. In the strategy of rural revitalization, industry prosperity becomes the primary goal, which is not only the fundamental guarantee of common prosperity but also necessary for the development of rural-urban integration.

In recent years, China has issued a series of policies to encourage the development and construction of rural tourism. Six departments, including the Ministry of Culture and Tourism, jointly formulated and published the Opinions on Promoting the Cultural Industries Empowerment of Rural Renewal, which calls for promoting the integration and development of primary, secondary, and tertiary industries and contributing to the prosperity of rural industries. This means that the sports industry will become a new growth point of our country's economy in the future and provide a strong impetus for rural revitalization. The sports tourism industry is one of the major categories of the sports industry, and its implementation plays a pivotal role in the rural revitalization strategy. Because tourism activities are widely related, the development of sports tourism is bound to have a positive impact on related industries and encourage the industry chain to extend both vertically and horizontally.

Sports tourism is a sunrise industry that can not only satisfy people's spiritual pursuits but also improve the quality of life for residents. For rural agriculture, the development of the sports tourism industry can expand modern tourism to traditional agriculture, increase rural agricultural income, and optimize the industry. Sports tourism resources are renewable, which can bring both economic and social benefits. Therefore, the development of the sports tourism industry is of great significance to local areas. However, in the development of resources, the zero-sum game between different interest groups exists widely, which is due to the development of the sports tourism market, inevitably leading to competition and the optimization of benefit distribution.

At present, most sports tourism projects in various parts of China adopt the development path of government-led or enterprise-led approaches. Some successful models, such as Chengdu's Foothill Hakkisland Model, Sanya's Centium Zhizhou Model, and Xinjiang's Silk Road Model, are being

explored by many. These examples demonstrate the potential for sports tourism to boost local economies, create new employment opportunities, and foster sustainable development.

In conclusion, the sports tourism industry holds great promise for rural revitalization and economic growth in China. By leveraging this industry's potential, local governments and enterprises can work together to develop sustainable, innovative, and culturally relevant sports tourism experiences. This will not only satisfy the evolving needs and preferences of tourists but also contribute to the overall prosperity and well-being of local communities.

To maximize the benefits of sports tourism, it is essential to address challenges such as competition between different interest groups, equitable distribution of benefits, and sustainable resource management. By adopting successful models and best practices from other regions and continuously innovating, China can capitalize on the potential of sports tourism as a driver for rural revitalization and economic growth.

Moreover, promoting sports tourism in rural areas can also help preserve and showcase local culture, heritage, and traditions, creating a unique and authentic experience for tourists. This approach can attract both domestic and international visitors, further expanding the market for sports tourism and its related industries.

As China continues to invest in and support the development of sports tourism, it will be crucial to focus on sustainability, innovation, and inclusivity. By fostering strong partnerships between government, businesses, and local communities, the sports tourism industry can play a significant role in driving the rural revitalization strategy and ensuring the long-term prosperity of the nation.

Simultaneously, it is essential to address the issue of homogenization commonly found in sports tourism. Even in areas with abundant sports tourism cultural resources, the insufficient integration of industry and culture, along with the lack of individuality and specialization, can create difficulties for the industry chain. This may reduce tourists' travel intentions and create bottlenecks in product, service, and experience innovation. Regarding investment output efficiency, many regional sports tourism initiatives focus too much on the efficient recovery of funds. Consequently, a significant proportion of these projects prioritize their own regional development without adequately incorporating surrounding ancillary industries. This results in only front-end consumption, without back-end consumption, which limits the industry chain's extension to deeper levels. Additionally, at each node of the industrial chain, losses or a lack of connection to the upstream supply chain in any node industry can result in a broken chain. Therefore, addressing the issues of "short chain," "broken chain," and "missing chain" in the sports tourism industry is crucial for promoting its high-quality development.

### **3. Creative "destruction" and chain length system: extending the short chain of sports tourism industry**

#### *3.1. Creative "Destruction" Promotes Value-Added Content*

Roland Barthes applied Saussure's semiotics in his view, arguing that commodities create "myths" by virtue of their symbolic significance. The difference between symbolic "signifiers" and those in popular culture makes commodities not only signifiers of uncertainties and cultural essentials, but also transforms them into signifiers, determiners, and natural attributes, adding value to commodities. The symbolic representation of a commodity is extremely efficient in communicating claims. It contains a wealth of content that can be easily associated with the product and brand. Symbols, whether heard or seen, are powerful in their ability to communicate instructions and influence human behavior. In terms of the development model, regardless of the resource endowments of the destination, intellectual property at the forefront of the sports tourism industry chain and content production with symbolic creativity at its core are key factors to consider.

According to economist Joseph Schumpeter, economic progress results from the "creative destruction" of economic cycles, which is driven not by price competition, but by competition in innovation. Sports tourism products, as a special commodity, undergo creative destruction in their production process. Thus, the quality level of the sports industry is a key determinant of the competitiveness of sports tourism products in a country or region. To achieve high-quality

development of the sports industry, the competitiveness of sports tourism products must be enhanced through creative and high-quality production of content. The core value of sports tourism products lies in content creativity, and a focus on content creative marketization is essential for successful production. The emphasis should be on designing and developing content that is centered around sports tourism products that align with consumer preferences, resonate with consumers, and evoke consumer sentiment. Achieving differentiated design of sports tourism products is a current research hotspot. When investing in technological and knowledge innovation, the input-output ratio should be considered given the high human, financial, and material resource requirements for research, development, and testing. Innovation carries risk and high costs, and the innovation cycle is long. Therefore, when transforming and upgrading the sports industry, creative development should be prioritized to increase the added value of sports tourism products and enhance their competitiveness, thus promoting the rapid and healthy development of the sports industry.

To avoid excessive costs and duplication in production, technological and symbol innovation must be prioritized. Some companies may lag behind in product construction, lose initiative and find it difficult to achieve self-breakthrough and ahead-of-development. Other companies may have weak knowledge innovation capacity, lack of cultural connotation, and eventually fall into low-level competition due to insufficient understanding of their own culture, ineffective integration, and utilization. However, some companies rely on traditional cultural elements for product research and development and resource transformation, and continuously build new sports tourism products through multi-industry embedding, reorganization, and optimization of resources.

Content creativity is a knowledge-intensive industry and is located at the top of the industrial chain. Its high-quality development requires promoting content value addition by creative “disruption”. Currently, the sports industry in China faces challenges such as insufficient application of big data, insufficient data value mining, lagging innovation in business models, shortage of professional talent, and lack of data governance mechanisms. Therefore, the construction of sports tourism data should be planned in an integrated way, breaking down data resource disintegration, opening up the entire process of data storage to the data market, and forming a national sports tourism resource database. Multi-stakeholders should be encouraged to jointly build, exploit, and cultivate a number of new digital sports enterprises, discussing the simultaneous development of sports tourism data collection, processing, and trading. The full development of resource elements and project status should be distributed and displayed, and a virtual sports consumption matrix should be created with AR and VR technology.

### *3.2. Chain Length System to Enhance Industry Competitiveness*

In terms of industry chain linkage, the sports industry is not closely related to the development of specialty industries, especially the digital industry. This is due to the industry’s inability to address questions such as how to cope with insufficient resources, how to deal with poor resource endowments, and how to identify a narrow resource transformation path. Digital transformation of the sports industry is a systemic project that must be addressed comprehensively.

Currently, the digital transformation of the sports industry lags behind, with the digital sports industry mainly limited to platform economic expansion. The potential for sports tourism products to be transmitted through various physical forms has been overlooked, and sports information services have not been fully integrated into people’s daily lives in the age of internet-based mobile interconnection. This inability to meet the demands of personalized sports consumption limits the competitiveness of the sports industry. Moreover, the sports industry has not yet fully embedded sports tourism in the tourists’ spiritual and cultural life needs. This limits the industry’s potential for driving investment and consumption through all-round synergy. By focusing on the specific scene of sports, the industry has not yet realized the basic competitiveness and overall potential of sports tourism products. Therefore, a more comprehensive and integrated approach to digital transformation is needed to fully tap into the potential of the sports tourism industry.

In the context of the single market, elongation of short chains requires solving the problem of low chain agglomeration effects. To do this, it is necessary to strengthen the chain by focusing on the

needs of enterprises, establishing a “chain length system,” leveraging the coordination role of the “chain office,” building key industries according to regional advantages, mining local enterprises, localizing procurement, introducing associated and supporting enterprises, forming industrial clusters, and developing industrial parks. The “chain length system” involves breaking existing profit patterns and improving resource utilization by adjusting the relationships between enterprises in different chain links. Companies that can grasp two or more links in the industry chain are more competitive and profitable. Controlling original intellectual property, raw materials, and sales improves competitiveness. The industrial chain refers to a series of links between upstream suppliers and downstream end consumers, including upstream producers and midstream logistics operators, downstream end consumers, and relevant upstream and downstream cooperation agencies. To create a vertical supply chain, it is necessary to focus on horizontal supply chain creation as well, which has a direct impact on the quality of future industry development and sustainability. This includes strategic consulting, business model consulting, training, etc. Strong linkages between enterprises and information exchange are necessary to reduce research and development costs and promote cross-disciplinary cooperation.

In the era of “Internet +”, traditional tourism should be considered as a whole, extending the industrial chain, building a core competitive industry pattern, and realizing the innovation transformation of traditional industries. The “chain length system” requires focusing on “industrial penetration and industrial restructuring,” establishing the concept of integration, strengthening resource integration, promoting technological integration, strengthening regional integration, implementing cross-border integration, exploring the deep integration of cultural industries and tourism development, and realizing issues related to transformation and upgrading, quality, and synergy. In terms of “data thinking and intelligent quality creation,” the focus is on “integration of resources and point axis effect, accurate positioning and local conditions, three-dimensional transportation and resource complementarity, enabling creativity and citywide tourism”. This involves exploring the super IP of regional culture, the blurring of boundaries in the sports tourism industry, and enhancing industry penetration and problems under normal industry integration. To enrich optional sports tourism products and prolong the sports industry chain, it is necessary to achieve continuous two-way interaction between tourists and cultural holders of tourist destinations by using data to accurately grasp “tourist type preference, income, time,” “accessibility, security situation, facility security, stimulating input, perceived value,” and other factors.

#### **4. Building a “Decentralised” Chain of Development: Linking the Broken Chains of the Sports Tourism Industry**

##### *4.1. “Decentralisation” to Maintain the Stability of the Industry Chain*

The so-called “centralization,” which essentially involves control, can paralyze the entire industrial chain once it is created with an individual at its core. Every node in the “centralized” chain can be manipulated, which in turn affects the interests of all subjects in the chain. Decentralization can not only solve the dilemma of the industrial chain being out of control because of an individual but also improve the efficiency of the industry to avoid more mistakes.

This paper analyzes the reasons for the interruption of the sports industry and tourism integration and development chain in China from the perspective of time-stamp technology. Time stamp technology has the characteristics of time continuity and non-falsification of information, ensuring the smooth connection of all nodes in the sports tourism industry chain and the authenticity and effectiveness of the data. Data is the core factor of production, and time-stamp technology can effectively address the problems in the development, production, and circulation of sports tourism products, thereby breaking the problems in the sports tourism industry chain.

In theory, decentralization can reduce the overall cost of the chain and reduce intermediate links between links, thus enhancing the overall value of the chain. It is based on a peer-to-peer network that causes each node to generate a message when it receives it, and when it is created, more than half of the additional nodes are validated and then added to the main chain to form a spider chain structure. The sports tourism industry chain is connected in such a way that no matter what goes



wrong with any of these nodes, the others can continue to operate without breaking the link or creating a missing link.

For example, in the sports tourism industry, sales nodes are concentrated in portals, which accumulate a lot of traffic and value for money. If portals do not provide traffic or have technical problems, all nodes in the industry chain can be destroyed. Decentralization does not eliminate centers completely but weakens them. Therefore, this paper proposes a multi-to-one network topology that supports different types of nodes better. It ensures that nodes are not damaged, and different sales nodes can be more profitable. Moreover, it promotes port competition for better service.

Moreover, all nodes in the industrial chain reach consensus through reciprocal, fair, and voluntary means. This consensus is a prerequisite for market transactions to be realized. Economic consensus thinking in the industrial chain provides more direction to the real economy. Internet thinking emphasizes user-centered design and innovation under the Internet platform. It is essentially user thinking, designing products to meet user requirements from the user's point of view, and is based on a consensus on user needs. In the industrial chain, the consumer becomes the core element, which differs from traditional trading modes that lock in users with marketing methods. Therefore, the integration and development of sports tourism industry should focus on consumers, conduct comprehensive research on sports tourism, and realize complementary resource advantages between upstream and downstream enterprises.

Specifically, in the sports tourism industry chain, the front end of the chain accurately obtains user preferences through a combination of user research and data analysis. The middle segment of the chain customizes service solutions for users by building a big data platform. Tracking user experience feedback after product sales allows users to take responsibility for oversight, improve product and service quality, and avoid homogenization. This approach to industry chain consensus thinking can promote user satisfaction and loyalty, thereby enhancing the competitiveness of sports tourism products and contributing to the rapid and healthy development of the sports tourism industry.

#### *4.2. One-Chain Drive to Increase the Value of the Industry Chain*

The logic of a chain drive is to combine various players in the same industry chain through a weak centralization platform. It integrates the elements distributed among the players in the chain to form an efficient and core competitive operating system. This is achieved through an incentive mechanism and intelligent contract algorithm to realize a cooperation mode with winning goals, maximizing the value of the industry, and building a continuous innovation and iterative industrial cluster. Chain logic improves industrial efficiency and quality by organizing and controlling the industrial chain, inspiring compliance with rules, and generating transaction log nodes, transaction costs, and additional remuneration. The introduction of artificial intelligence technology throughout the chain makes blockchain logic a reality, allowing it to be applied to more areas.

With the rapid development of Internet technology and electronic commerce, more people are paying attention to and using online trading platforms for business activities, resulting in a new business model - the online economy model. Through the establishment of cooperation with other industries, sports and cultural elements are integrated into tourism commodities, upgrading traditional tourism to modern tourism. Through visual symbols and creative marketing, the sports tourism industry leads the field, achieving high synergy through various details. Visitors can participate in the entire industry chain, forming a complete industry chain, and realizing the creation of tourist consumption value.

However, there is a lack of supporting industries for tourism sites that can act as creative R&D nodes, connect qualified manufacturers across the country to produce products, connect platforms to conduct online marketing campaigns, and use products to attract tourists. This deficiency can be addressed by promoting the development of sports tourism products through content creativity, industrial chain integration, and the establishment of strong partnerships with other industries. This

will lead to a stronger and more competitive sports tourism industry, which can drive regional economic growth and improve the overall quality of tourism services.

Point-to-point technology based on the industry chain is tamper-proof, enabling users and businesses to monitor each other's behavior during travel. With the help of blockchain technology, inter-industry barriers in tourism have been broken down, creating an accurate tourism chain. By processing data information throughout the chain, a closed loop is formed, leading to improved service quality, increased tourist satisfaction, and ultimately enhancing the competitiveness of enterprises. Under mutual supervision, users and businesses can evaluate each other, using this information to motivate services and deter bad behavior. As society develops and technological innovation advances, blockchain technology is increasingly driving the upgrading and transformation of industries. Centralized technology relies on intermediaries for value transfer, while the real economy requires a new digital financial system. With the introduction of the digital yuan, the transition from traditional to modern value transfer can be realized, enabling the digital economy with blockchain at its core.

In the process of tourism informatization, the changes brought about by blockchain technology should also be taken into consideration. When planning a trip, tourists can choose from different styles of scenic spots via various entry points, resulting in different levels of travel quality, including itinerary, time, price, and more. After completing a tour, visitors can provide feedback on their experiences, which can be used to monitor businesses and provide corresponding rewards. The entire process is based on blockchain technology, making it easier and faster for users to participate.

The industry blockchain changes the way organizations are organized, reducing the cost of inter-firm value exchange on the same chain, weakening organizational boundaries and barriers to collaboration, connecting partner networks and relationship capital through programmable limited consensus, generating value creation, and generating sustainable profitable revenue, among other drivers.

## **5. Avoidance of Involution and Multi-Industry: Completing the Missing Chain of Sports Tourism Industry**

### *5.1. Avoiding Involution to Crack the Lack of Chains*

Intrinsic development refers to the process where a system becomes more complex within itself, rather than transforming into a new form, under external expansion conditions. In the case of sports tourism, many regions have started to develop various sports tourism attractions, but often, sports is just a superficial aspect of tourism. To promote the domestic demand in tourism, we need to improve the product system, enhance safety, and improve the operating mechanism. However, instead of reproducing products unlimitedly, we should establish a standard system, control the cost while maintaining quality, and focus on providing good consumer experiences to capture the market. This requires improving product quality, services, and marketing strategies, so that consumers can truly enjoy sports and feel satisfied with their experience.

Therefore, if sports tourism products can produce higher-quality goods and enhance the quality of the tourism experience, it can effectively stimulate domestic demand. The industrial chain carries the process of production and transaction within and between enterprises, covering every link from raw materials to terminal goods, products, or services. Upstream and downstream enterprises have a relatively independent position of interest in the whole chain. The value of products provided by enterprises to customers is not only limited by their own production capacity but also limited by upstream and downstream enterprises due to the existence of various nodes in the industrial chain and the interdependence of enterprises. Whether the structure and function of the industrial chain are reasonable or not determines the operation state and effect of the whole chain, which is directly influenced by the operational efficiency of the enterprises in the upper and lower reaches. The development of the sports tourism industry chain is also the same. Through the construction of different industrial nodes, any problematic node will have an impact on the whole industry chain. Therefore, the weak links or break links in the industry chain should be addressed promptly. Enterprises should actively solve the problems that restrict the efficiency of the upper and lower

enterprises to improve the efficiency of the industry chain. This will enable the competitive advantage to be based on the overall efficiency released by the industry chain.

### *5.2. Industry Chain Diversification*

In terms of external performance, the industrial chain emphasizes production linkages and the physical flows they generate. Essentially, the industrial chain is a form of network organization model that resembles a knowledge chain. However, in essence, the industrial chain is not just a product chain or a knowledge chain, but a value chain. It creates incremental rewards throughout the production process of the product, which allows the industry to continuously develop and evolve. Thus, the industrial chain can also be considered a form of knowledge network organization, where the dissemination, diffusion, and utilization of knowledge links constitute a complete knowledge chain. The division of knowledge and the increased rewards resulting from knowledge sharing are the core elements of the industrial chain.

As a new industry, sports tourism cannot be developed without the theory of industrial chain. However, the current state of the sports tourism industry is characterized by serious homogenization. The lack of cultural resources at the forefront of the industrial chain has become a bottleneck in the industry, and the homogeneity of cultural resources has led to the fragmentation of the chain in different regions. This phenomenon not only affects the sustainable development of sports tourism, but also causes a large amount of idle cultural resources to be wasted, rendering them worthless.

Therefore, it is imperative to complement the entire industry chain and carry out the integration and upgrading of “culture plus multi-industry” in the sports tourism industry. Efforts will be made to speed up the construction of industrial clusters, increase the scale of matching industries, and strengthen the foundation of the real economy. Talents training and introduction will be strengthened to enhance core competitiveness. Research and development and popularization of basic and common technologies will be carried out to promote the development of traditional industries in a highly sophisticated direction. The government will play a role in market orientation and establish a multi-input mechanism to promote the healthy, orderly, and rapid development of sports tourism. Efforts will be made to improve the environment for the development of the industrial chain, strengthen factor support, and start with design, research and development, logistics, and other productive service industries, as well as strengthen the functional construction of talent training, information services, and other public service platforms.

## **6. Conclusions**

The change and upgrade of the sports tourism industry chain is closely related to the quality development of sports tourism. However, the development direction needs to be clarified, and a development plan needs to be formulated. This paper proposes a new sports tourism industry framework model based on the internet platform and smart city technology by combing and summarizing related research at home and abroad, and combining with the situation in China. In the context of a unified national market, this paper explores the realization path of sports tourism resources to the sports tourism industry by optimizing digital resources and developing and investing in high-quality tourism sites. Based on the analysis of existing sports tourism resources in China, the new trend of integrating sports tourism resources is to construct an intelligent platform based on cloud computing, big data analysis, and mobile internet technology. To increase the value of the industry chain and elongate the industry chain, it is necessary to break the phenomenon of data resource incompatibility and use the chain length system. To ensure the smooth operation of the industrial chain and break down the barriers of the industry one by one, it is necessary to decentralize the structure. In addition, the paper proposes the development model of the sports tourism eco-circle, which integrates the industrial chain to form a new industry pattern and ecology. To optimize and upgrade the sports tourism industry chain, the paper suggests promoting the transformation of industrial structure and resources to products. Moreover, constructing a standard system in China, adopting the “sports + multi-industry” approach, avoiding setting up children’s travel experiences, and completing the entire industry chain are crucial for breaking the insinuation.

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